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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HARRIS, ANTON B

ART UNIT PAPER NUMBER

2831

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,289

Applicant(s)

MORROW ET AL.

Examiner

Anton B Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 30-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 30-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 13, 35, 36, 45, 49, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock (U.S. Patent No. 3,367,370 cited by Applicant) in view of Pelzer (U.S. Patent No. 5,212,349 cited by Applicant) and Nakamura et al. (JP 05106779A cited by Applicant).

Regarding claim 1, Sherlock (col. 2, lines 41-46) discloses a toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high

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elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Furthermore, claim 1 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claims 13 and 53, Nakamura et al. (figure 1) shows at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube 1.

Regarding claim 35, Sherlock (col. 2, lines 41-46) discloses a toneable conduit comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall

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of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Furthermore, claim 35 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claim 36, Sherlock (col. 2, lines 41-46) discloses a high elongation wire 20.

Regarding claim 45, Sherlock (col. 2, lines 41-46) discloses a wire coated 20 with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

Regarding claim 49, Sherlock (col. 2, lines 41-46) discloses an elongate tube 10 having a predetermined wall thickness.

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3. Claims 2, 3, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Nakamura et al. as applied to claims 1 and 35 above and further in view of the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unknown but prior to August 7, 2001 cited by Applicant).

Regarding claims 2 and 3, Sherlock modified as taught by Pelzer and Nakamura et al. discloses the invention substantially as claimed, but lacks an elongation of at least about 1% claims 2 and 37, and an elongation of at least about 3% claims 3 and 38.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1% and 3%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Nakamura et al. by providing an elongation of at least about 1% and an elongation of at least about 3% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Nakamura et al. and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product, and Craton (U.S. Patent No. 6,139,957).

Regarding claim 4, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate

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polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled, a wire selected from the group consisting of copper-clad steel wire, copper-clad aluminum wire, copper wire, and tin copper wire, and having an elongation of at least about 1%.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

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Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing an elongation of at least about 1% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Furthermore, claim 4 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claim 5, Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

Regarding claim 6, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, and Nakamura et al., and Tzeng et al. (U.S. Patent No. 6,005,191).

Regarding claim 7, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, a wire coated with a coating composition formed of a polymeric material selected from the group consisting of fluoropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

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Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polyesters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with polyesters in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, claim 7 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claim 8, Tzeng et al. (col. 6, lines 11-14) teaches a coating composition formed of a polymeric material that has a melting temperature of at least about 500 degrees Fahrenheit.

Regarding claim 9, Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Nakamura et al. as applied to claim 1 above and further in view of Levingston et al. (U.S. Patent No. 6,105,649).

Regarding claim 10, Sherlock modified as taught by Pelzer, and Nakamura et al. discloses the invention substantially as claimed, but lacks a smooth exterior surface of the tube.

Levingston et al. (col. 5, lines 50-54) teaches a smooth exterior surface of the tube 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Nakamura et al. by providing a smooth exterior surface of the tube in order to enhance strength and external appearance in view of the teachings of Levingston et al.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Nakamura et al. as applied to claim 1 above and further in view of Karl (U.S. Patent No. 6,135,159).

Regarding claim 11, Sherlock modified as taught by Pelzer and Nakamura et al. discloses the invention substantially as claimed, but lacks a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

Karl (col. 1, line 55) teaches a tube 12 formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Nakamura et al.

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by providing a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride in order to offer resistance to chemical attack in view of the teachings of Karl.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Nakamura et al., and Karl as applied to claim 11 above and further in view of Bird (U.S. Patent No. 6,131,265).

Regarding claim 12, Sherlock modified as taught by Pelzer, Nakamura et al. and Karl discloses the invention substantially as claimed, but lacks a tube formed of a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer, Nakamura et al., and Karl by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, Nakamura et al.; Bird, Craton, and Tzeng et al.

Regarding claim 14, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the

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wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, a predetermined wall thickness, a tube formed of high density polyethylene, a copper-clad steel wire coated with polytetrafluoroethylene, and a copper-clad steel wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Bird (col. 4, lines 34-37) teaches a predetermined thickness of a wall 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a predetermined thickness of a wall in order to have the advantage of having the depth of recess equal to about one-fifth to about one-half the wall thickness in view of the teachings of Bird.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with polytetrafluoroethylene in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, claim 14 recites that the copper-clad steel wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but

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only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

In re Hutchinson, 69 USPQ 138.

10. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Patent No. 4,109,941) in view of Sherlock, Nakamura et al., and Pelzer.

Regarding claim 30, Wood et al. (abstract) discloses a method of coupling a first toneable conduit 1 with a second toneable conduit 3, comprising the steps of. providing a first toneable conduit 1 comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness, and mechanically connecting the first conduit and the second conduit, but lacks a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube; providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube, tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the

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second toneable conduit through the exterior surface of the second toneable conduit; and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit.

Sherlock (col. 2, lines 41-46) teaches a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a channel extending longitudinally of the wall of the elongate polymeric tube, a continuous said high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube in order to print as desired in view of the teachings of Sherlock.

Pelzer (col. 12, lines 3-20 and figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12 and teaches tearing the high elongation wire 14 of the first toneable conduit 12 through the exterior surface of the first toneable conduit 12, tearing the high elongation wire 14 of the second toneable conduit 12 through the exterior surface of the second toneable 12 conduit, and electrically connecting the high elongation wire 14 from the first. toneable conduit 12 and the high elongation wire 14 from the second toneable conduit 12 (col. 12, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall

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of the polymeric tube and including the step of a tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit, and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit in order to protect the wires from corrosion and make a permanent electrical contact in view of the teachings of Pelzer.

Nakamura et al. (figure 1) shows a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from

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adhering, to the polymer melt used to form the polymeric tube, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

11. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Nakamura et al., and Pelzer above in claim 30 and further in view of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Regarding claim 31, Wood et al. as modified by Sherlock, Nakamura et al., and Pelzer discloses the invention substantially as claimed, but lacks an elongation of at least 1%.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Nakamura et al. by providing an elongation of at least about 1% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

12. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Nakamura et al., Pelzer, and The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product. above in claim 31, and further in view of Craton.

Regarding claim 32, Wood et al. as modified by Sherlock, Nakamura et al., Pelzer, and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product discloses the invention substantially as claimed, but lacks a copper-clad steel wire.

Craton.(col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Wood et al. as modified by Sherlock, Nakamura et al., Pelzer, and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

13. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Nakamura et al., and Pelzer above in claim 30 and further in view of Tzeng et al.

Regarding claim 33, Wood et al. modified as taught by Sherlock, Nakamura et al., and Pelzer discloses the invention substantially as claimed, but lacks a coating of polytetrafluoroethylene.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Nakamura et al., and Pelzer by providing a wire coated with polytetrafluoroethylene in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit with a wire coated with polytetrafluoroethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

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14. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Nakamura et al., and Pelzer above in claim 30 and further in view of Bird.

Wood et al. modified as taught by Sherlock, Nakamura et al., and Pelzer discloses the invention substantially as claimed, but lacks a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Nakamura et al., and Pelzer by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. modified by Sherlock, Nakamura et al., and Pelzer by providing a second toneable conduit with a tube formed of a high-density polyethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

15. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Nakamura et al., and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unknown but prior to August 7, 2001 cited by Applicant) as applied to claim 37 above and further in view of Craton.

Regarding claims 39 and 40, Sherlock modified as taught by Pelzer, Nakamura et al., and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product Sherlock, discloses the invention substantially as claimed, but lacks a coating of a copper-clad steel wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 41, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

16. Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer and Nakamura et al., as applied to claim 35 above and further in view of Craton.

Regarding claims 42 and 43, Sherlock modified as taught by Pelzer, Nakamura et al., discloses the invention substantially as claimed, but lacks a coating of a copper-clad steel wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 44, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

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17. Claims 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer and Nakamura et al., as applied to claim 45 above and further in view of Tzeng et al.

Regarding claim 46, Sherlock modified as taught by Pelzer, Nakamura et al., discloses the invention substantially as claimed, but lacks a wire coated with a coating composition formed of a polymeric material selected from the group consisting of fluoropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polyesters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with polyesters in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Regarding claim 47, Tzeng et al. (col. 6, lines 11-14) teaches a coating composition formed of a polymeric material that has a melting temperature of at least about 500 degrees Fahrenheit.

Regarding claim 48, Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

18. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Nakamura et al. as applied to claim 49 above and further in view of Livingston et al. (U.S. Patent No. 6,105,649).

Regarding claim 50, Sherlock modified as taught by Pelzer, and Nakamura et al. discloses the invention substantially as claimed, but lacks a smooth exterior surface of the tube.

Levingston et al. (col. 5, lines 50-54) teaches a smooth exterior surface of the tube 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a smooth exterior surface of the tube in order to enhance strength and external appearance in view of the teachings of Levingston et al.

19. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Nakamura et al. as applied to claim 35 above and further in view of Karl.

Regarding claim 51, Sherlock modified as taught by Pelzer and Nakamura et al. discloses the invention substantially as claimed, but lacks a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

Karl (col. 1, line 55) teaches a tube 12 formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Nakamura et al. by providing a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride in order to offer resistance to chemical attack in view of the teachings of Karl.

20. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Nakamura et al., and Karl as applied to claim 51 above and further in view of Bird.

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Regarding claim 52, Sherlock modified as taught by Pelzer, Nakamura et al. and Karl discloses the invention substantially as claimed, but lacks a tube formed of a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

21. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, Nakamura et al., Bird, Craton, and Tzeng et al.

Regarding claim 14, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel, a predetermined wall thickness, a tube formed of high density polyethylene, a copper-clad steel wire capable of transmitting a toning signal to allow the conduit to be detected by toning

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equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Nakamura et al. (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel in order to hold a buried pipe and provide strength to the conduit in view of the teachings of Nakamura et al.

Bird (col. 4, lines 34-37) teaches a predetermined thickness of a wall 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a predetermined thickness of a wall in order to have the advantage of having the depth of recess equal to about one-fifth to about one-half the wall thickness in view of the teachings of Bird.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Furthermore, claim 54 recites that the copper-clad steel wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Response to Arguments

22. Applicant's arguments with respect to claims 1-3, 10-14, and 30-34 have been considered but are moot in view of the new ground(s) of rejection except as follows:

In response to Applicant's argument that the combination of Sherlock and Nakamura fails to disclose a stabilizing rib extending longitudinally along the interior surface of the wall and located radially inward from the channel as recited in claims 30-34, Examiner disagrees. Nakamura et al. (figure 1) shows a stabilizing rib extending longitudinally along the interior

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surface of the wall of the elongate polymeric tube 1 and located radially inward from said channel.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anton B Harris whose telephone number is (571) 272-1976. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dean Reichard, can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

 10/18/04
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